CLAIMS

1. A free fall simulator comprising:

a flight chamber;

a fan means positioned below said flight chamber;

a noise attenuation housing substantially enclosing said fan means; and

a plurality of air intake openings in said housing.

2. The free fall simulator of claim 1 wherein said housing includes a canopy extending radially outwardly from said flight chamber.

3. The free fall simulator of claim 2 wherein said canopy includes an outer peripheral edge and said housing further includes at least one noise attenuation stack positioned at the peripheral edge of said canopy.

4. The free fall simulator of claim 3 including a plurality of said stacks.

5. The free fall simulator of claim 4 including a wall section joined along a portion of said peripheral edge and between adjacent ones of said plurality of stacks.

6. The free fall simulator of claim 1 wherein said fan means includes at least one radially extending air intake duct and a fan positioned therein.

7. The free fall simulator of claim 6 including a plurality of said air intake ducts, each having a fan positioned therein.

8. The free fall simulator of claim 7 wherein said housing includes a canopy extending radially outwardly from said flight chamber.

9. The free fall simulator of claim 8 wherein said canopy includes an outer peripheral edge and said housing further includes at least one noise attenuation stack positioned at the peripheral edge of said canopy.

10. The free fall simulator of claim 8 including a plurality of said stacks.

11. The free fall simulator of claim 2 wherein said flight chamber includes a lower end and an upper end and said canopy extends radially outwardly from said flight chamber near said lower end and above said fan means.

12. A free fall simulator comprising:

a flight chamber having a lower end;

a fan means comprising a plurality of fans and corresponding air inlet ducts extending radially outwardly from the lower end of said flight chamber; and

a noise attenuation stack connected with each of said air inlet ducts.

13. The free fall simulator of claim 12 wherein said noise attenuation stack includes an open top or a plurality of openings in its top.

14. A pre-flight simulator comprising:

a flight chamber;

a fan means positioned below said flight chamber;

a noise attenuation housing substantially enclosing said fan means;

a substantially closed hood above said flight chamber;

a plurality of openable and closeable louvers in said hood;

one or more recirculation columns between said hood and said noise attenuation housing.

15. The pre-flight simulator of claim 14 including a temperature control for controlling the temperature within said flight chamber.

16. A free fall simulator comprising:

a flight chamber;

an ingress/egress system allowing a user to enter and exit from said flight chamber or an area adjacent to said flight chamber, said ingress/egress system including an air lock door system including a pressure transition chamber between the ambient atmosphere and said flight chamber.

17. The free fall simulator of claim 16 wherein said air lock door system includes a revolving door.

18. The free fall simulator of claim 16 wherein said air lock door system includes a pair of air lock doors defining said transition chamber.

19. A method of free fall simulation comprising:

providing a flight chamber with sufficient dynamic pressure to support a user against the force of gravity;

providing an air lock door system with a pressure transition chamber between the ambient atmosphere and said flight chamber;

maintaining said flight chamber with sufficient dynamic pressure to support a user against the force of gravity while users enter or exit from said flight chamber or an area adjacent to said flight chamber through said air lock door system.

20. The method of claim 19 wherein said air lock door system is a revolving door.